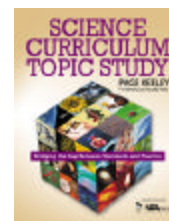


## Curriculum Topic Study



CTS is a process that allows the educator to investigate a specific area of content to determine the essential information about the topic necessary for student understanding. It also uncovers possible student misconceptions and shows the connections between the specific topic under study and other related topics. One of the things that CTS allows the educator to do is to eliminate the unnecessary and possible confusing details and reveal the enduring understandings that the students should acquire after studying the topic. CTS is particularly effective when used by a group of educators because the discussion of the various questions accompanying the study encourage the group to share strategies and experiences that will enhance the learning of all students.

## Science National Standards Resource List

A Curriculum Topic Study involves the use of several research-based resources that should be a part of every school's professional library. These resources are:

\* *Science Matters*: a book describing essential science concepts; written for the general public

Hazen, Robert and Trefil, James. (1991). Science Matters. The Anchor Books: Doubleday. New York: NY.

\* *Science for All Americans*: a book describing essential science concepts; written for educators and scientists; prepared by AAAS

National Research Council. (1990). Science for All Americans. National Academy Press: Washington. DC.

\* *The Benchmarks for Science Literacy*: a book describing the steps needed to acquire the understanding of essential science concepts; prepared by AAAS

American Association for Advancement of Science. (2001). Benchmarks for Science Literacy—Project 2061. NSTA Press: Washington, DC.

\* *The National Science Education Standards*: a book describing program and content standards necessary for achieving science literacy; prepared by the National Research Council

National Research Council. (1996). National Science Education Standards. National Academy Press: Washington, D.C.:

\* *Making Sense of Secondary Science: Research into Children's Ideas*: a book that describes how children think about science at various developmental stages; uncovers possible misconceptions that can develop

Driver, Rosalind et al. (2000). Making Sense of Secondary Science.—Research into Children's Ideas. Routledge Press: London and New York.

\* *The Atlas of Science Literacy*: a book that provides maps that connect science concepts and shows how those concepts are developed and refined from early childhood through high school

American Association for the Advancement of Science. (2001). Atlas of Science Literacy—Project 2061. NSTA Press: Washington, DC.

\* *Science Curriculum Topic Study: Bridging the Gap between Standards and Practice*: a book that includes the process of CTS, the discussion questions and the study guides for a large number of science topics.

Keeley, Page. (2005). Science Curriculum Topic Study: Bridging the Gap Between Standards and Practice. California: Corwin Press.

## Science CTS Sections

A CTS Study Guide for a specific topic gives the users the selected passages in the above resources related to the topic. For example, refer to the CTS Study Guide on *Properties of Matter*.

Section I. Identify Adult Content Knowledge: The readings and discussion questions included in this section show what the scientifically literate adult should know and understand about the topic.

Section II. Consider Instructional Implications: The readings and discussion questions included in this section bring out the topics and ways of teaching the topics essential to student understanding of the topic.

Section III. Identify Concepts and Specific Ideas: The readings and discussion questions in this section allow educators to develop a specific list of concepts to be included in the teaching of the topic

Section IV. Examine research on Student Learning: The readings and discussion questions included in this section give educators the opportunity to uncover the instructional sequence and the possible misconceptions that could be involved with the topic.

Section V. Examine Coherency and Articulation: In this section educators will examine the maps in the Atlas of Science Literacy that show the connections between the instruction in this topic at various grade levels and between other topics related to the topic under study.

Section VI. Clarify State Standards and the District Curriculum. This section connects the Frameworks, the GE's and the school/district's science curriculum to what the educators have learned about the topic under study.

Keeley, P. (2005). *Science Curriculum Topic Study*. Thousand Oaks, Ca.: Corwin Press  
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